



Governor's Office of Storm Recovery



Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

Rebuild by Design Living with the Bay

Living with the Bay Citizens Advisory Committee Meeting #1
May 24th, 2016



Living with the Bay Citizens Advisory Committee (CAC)

Agenda

1. Welcome:
 - Living with the Bay Overview
 - Introductions
 - CAC Roles and Responsibilities
2. Project Updates
 - All Sections
 - North
 - Middle
 - South
3. Next Steps
4. Comments and Questions:
 - CAC
 - Public



US Department of Housing and Urban Development (HUD)

Rebuild By Design (RBD)

Rebuild by Design was launched in response to Hurricane Sandy to promote storm preparedness and resiliency in the Northeast Region.

The Living with the Bay Design Team engaged over 100 organizations during the competition process conducting over 70 community meetings, informational meetings, and presentations.

Stages of Competition:

Stage 1 (June-July 2013): 148 interdisciplinary resilient concepts were submitted. 10 winning project teams selected for Stage 2 of competition.

Stage 2 (Aug-Oct 2013): \$100,000 was provided to each design team to engage stakeholders, identify interdependencies, and document vulnerabilities needed to develop comprehensive regional strategies.

Stage 3 (Nov 2013-Feb 2014): Teams awarded an additional \$100,000 to design site-specific projects that could be locally implementable and scalable.

Stage 4 (Mar 2014): HUD announced final competition winners.

CONGRATULATIONS LIVING WITH THE BAY!



Living with the Bay

Originally Funded Project Area - \$125M

Purpose and need:

- Address storm surge flooding and storm water inundation.

Project Area

- Bay Park to Rockville Centre

Project Components:

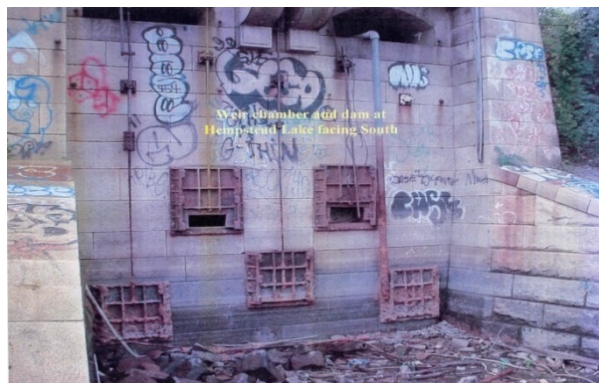
- Greenway
- Blue/ Green Water Retention Park
- Bioswales
- Underground Storage Systems
- Sluice Gate



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Project Area Changes

Winning RBD Project Design	➔ Revised RBD Project Design- Cohesive Watershed Solution
Greenway	Expanded greenway and blueway
Blue/Green Water Retention Park	Rockville Centre, Hempstead Lake State Park, Town of Hempstead
Bioswales and underground storage systems	Municipal Projects, including drainage improvements, stormwater management and underground storage systems
Sluice Gate	Marshland Restoration and Living Shoreline Systems
Environmental benefits and community resiliency	Water quality, pollution reduction, fish passage, educational training, and recreational opportunities



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Competition Lessons Learned

Lessons Learned:

- Original design did not incorporate full environmental costs and ownership of land
- Sluice gate
 - Cost prohibitive and would not fully complete RBD concepts and goals
 - Would not benefit all communities and could harm those at the southern portion of the Mill River
- Drainage improvements and stormwater storage projects would benefit multiple municipalities and the Mill River, while achieving environmental and resiliency benefits consistent with RBD goals
- Restoring and revitalizing the 100 year old dam at Hempstead Lake State Park will improve water quality at the source, benefit downstream communities, and provide water storage capacity
- Work at northern ponds addresses pollution and water quality issues that impact the entire Mill River

Conclusion: Redirected project design focus to stormwater management, drainage improvements and coastal restoration to protect communities and address day to day water management challenges



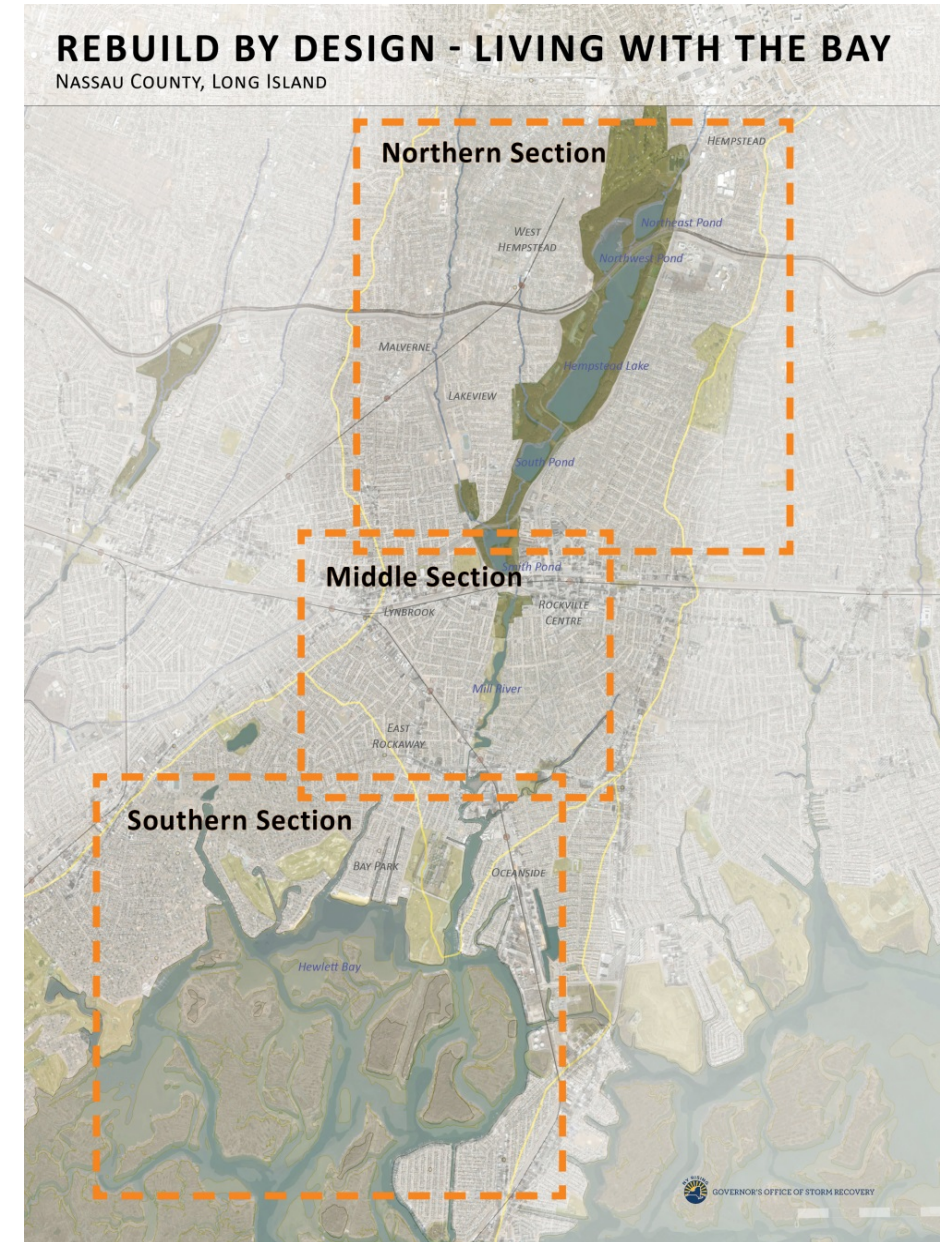
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Revised Project Area - \$125M

A comprehensive suite of resiliency projects focused on the Mill River Watershed communities (From Hempstead Turnpike to Bay Park).

Purpose and Need:

- Coordinating efforts to address not only hurricanes, but also storm surge and stormwater management
- Combine natural and engineered systems to increase community resiliency by reducing tidal and storm surge impacts, prioritizing the use of green and grey infrastructure, and revitalizing historic structures
- Creating environmental co-benefits including: improving water quality, aquifer recharge, reducing pollutants in the river, and enhancing ecology and habitat restoration
- Providing opportunities for social resiliency by engaging local schools and community groups
- Improving public access by creating greenways and blueways, and providing recreational opportunities for residents



Introductions

Design Team Partnerships

Established:

- NYS Parks, Recreation, and Historic Preservation
- NYS DEC
- NYS DOT
- Nassau County
- Village of Rockville Centre
- Village of Malverne
- Town of Hempstead
- Seatuck Environmental Association

In Progress:

- Village of East Rockaway
- East Rockaway School District
- Village of Hempstead
- USFWS

Additional Partners TBD:

- Village of Lynbrook

Design Team: IMG Rebel - Interboro Partners - Waterland Design - Deltares USA

Watershed Design Team: Procuring watershed planning design team services.



Living with the Bay

Citizens Advisory Committee (CAC)

What is the Living with the Bay CAC?

- 22 representatives from diverse communities across Long Island were selected.
- CAC members serve as advisors, and community educators.
- CAC members include: local community, public, private and not for profit stakeholders from Brooklyn, East Rockaway, Freeport, Island Park, Lindenhurst, Long Beach, Lynbrook, Malverne, Oceanside, Rockville Centre, Seaford, and Valley Stream.
- CAC has two (2) designated co-chairs.

Note: All public engagement events , workshops and CAC meetings will be open to the public.



CAC Introductions: Members

Co- Chair: David Stern

Co- Chair: Joseph Forgione

Alyssa Gerber

Amy Wolf

Andrew Miller

Arthur Mattson

Daniel Caracciolo

Daniel Horn

Gregory Rinn

James Loglisci

Jay T. Korth

Jim Ruocco

Joseph Landesberg

Justin Corbo

Leslie Price

Linda Marshall

Raymond Pagano

Ryan Trantel

Steven Ruscio

Thomas Rozakis

Tricia Vanderbeck

William Faraday

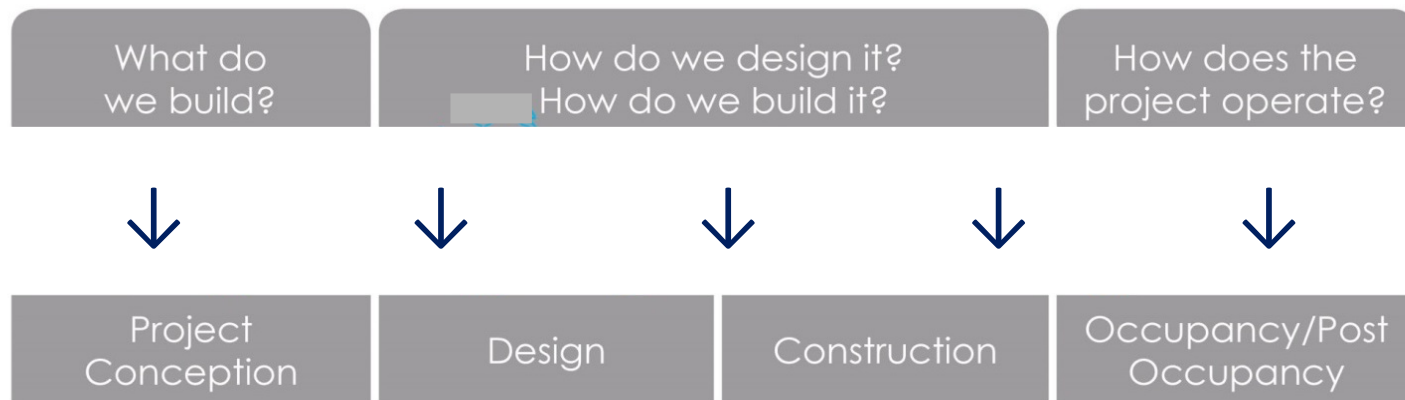


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Citizens Advisory Committee (CAC)

Roles & Responsibilities: YOU C. A. R. E.

- **Collaborate:** on potential partnerships to leverage funds and implement long term monitoring programs
- **Advise:** on how to develop positive impacts for local communities, ecosystems, economy and culture.
- **Review:** project's conceptual development from environmental review and design through construction.
- **Engage:** Serve as conduits to provide information and gain local feedback on project



More information on the public CAC process can be found at: <http://stormrecovery.ny.gov/public-cac-process>

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Project Design Overview

Program runs north and south with 3 major sections and overarching goals:

System Wide Goals: Greenway, fish passages, social resiliency, stormwater management and water quality improvements, and check valves.

1. Northern Section (freshwater, water quality, flood defense): Hempstead Lake State Park

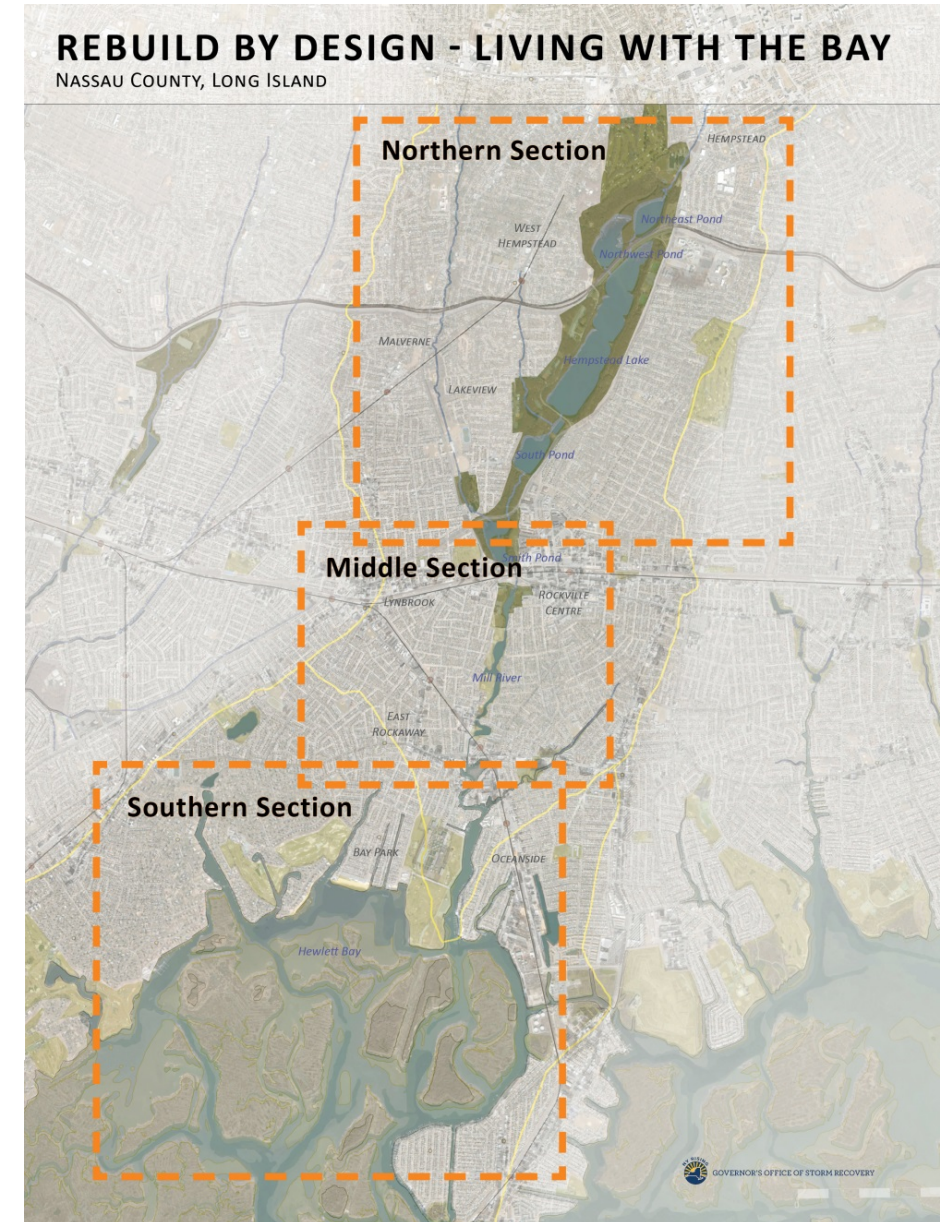
Partnerships to date: NYS Parks, Town and Village of Hempstead, Village of Malverne

2. Middle (brackish water, storm surge, stormwater management): Municipality Projects.

Partnerships to date: Nassau County, Village of Rockville Centre, Village of Malverne, Town of Hempstead, and others TBD

3. Southern (marine water, storm surge): Marshland Restoration.

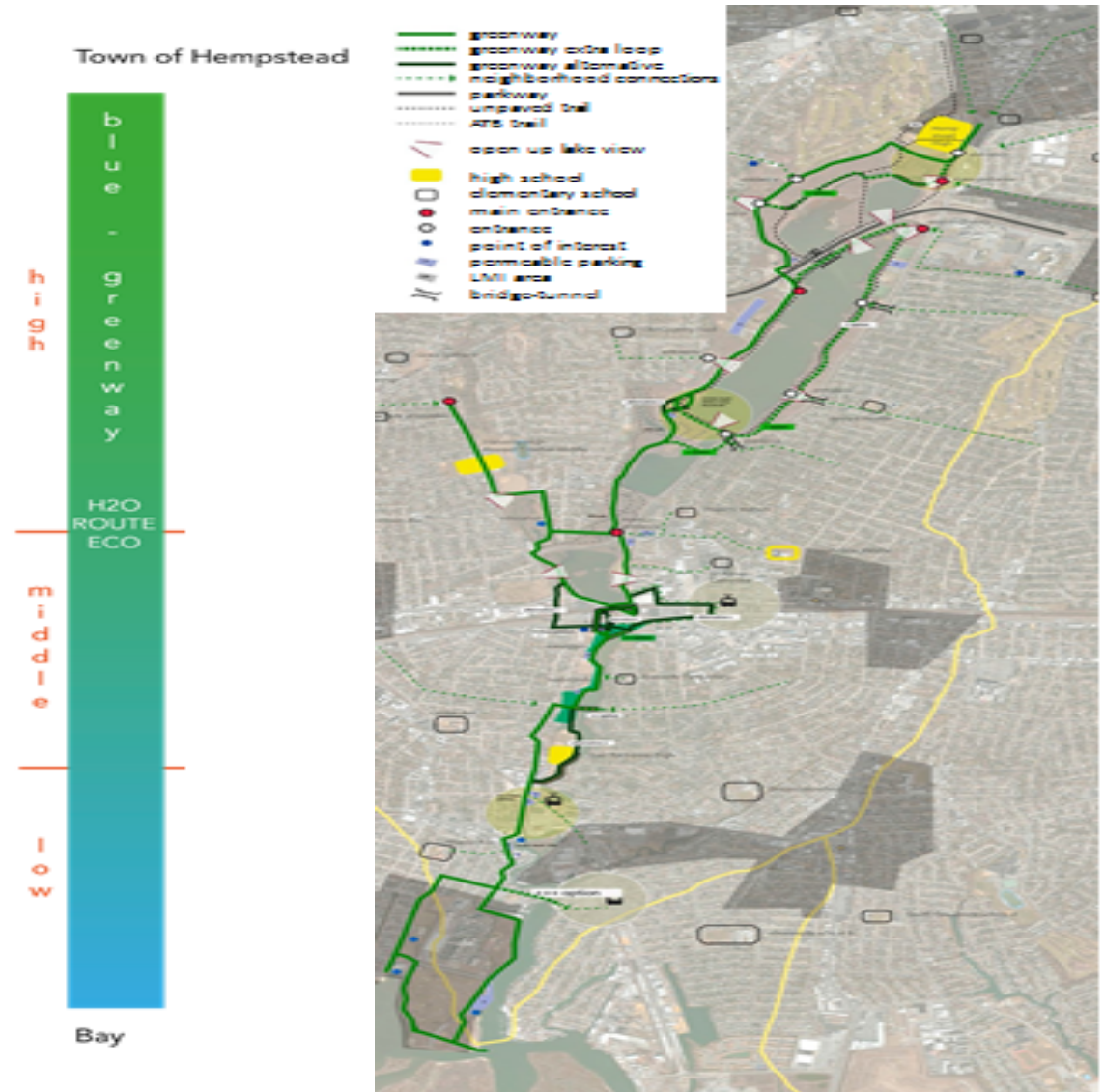
Partnerships to date: Town of Hempstead, Nassau County, and others TBD



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All Sections: Greenway

- Greenway proposed to run from north of Hempstead Lake State Park to Bay County Park.
- Broad support for “tie in’s” to adjacent communities with a mix of natural and urban features.
- Design team identified several issues that need study, including finding road crossing solutions, branding, signage, and public safety enhancements.



Living with the Bay Greenway and Blueway Continuity

Connect to Adjacent Trails:

Greenways, Blueway, Bridal Paths

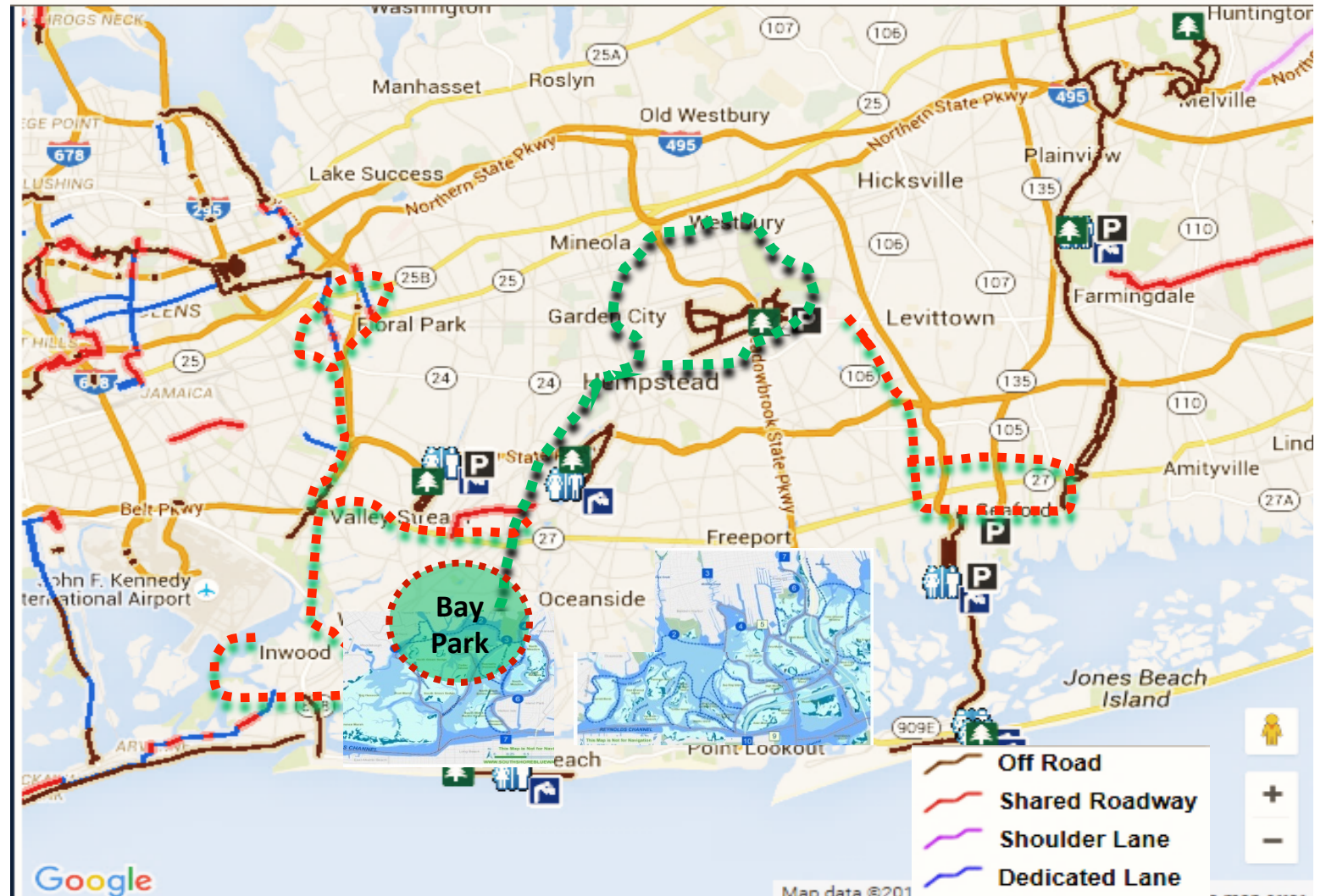
Ecologic Restoration:

encourage cleanliness of water bodies, stewardship and education.

Natural Shoreline and Bulkheads:

repair connections and ensure compatibility.

Intermodal Connectivity: Improve connections and universal access for all ages and abilities with clear and consistent signage and wayfinding.



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All Sections: Fish Passage

Overview

- Migratory fish: connect fresh and salt water
- Freshwater fish: interconnected streams and ponds

Importance

- Indicator of river health
- Positive impact on other wildlife
- Positive impact on water quality
- Demonstrates long-term efficacy
- Provides social and educational opportunities

Partners

- Seatuck Environmental Association
- USFWS
- NYS DEC
- NYS Parks
- Village of Rockville Centre



*Smith Pond survey caught the following species: largemouth bass, chain pickerel, yellow perch, black crappie, bluegill, pumpkinseed, common carp, goldfish, golden shiner, and American eel

Analysis | 7 main bottle necks

#7 Smith Pond -
Tanglewood Preserve



#6 NW Pond - NE Pond

#5 Hempstead Lake - NW Pond

#4 Hempstead Dam
(South Pond - Hempstead Lake)

#3 Smith Pond - South Pond

#2 Sunrise Highway (Mill River - Smith Pond)

#1 Channel LIRR

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All Sections: Fish Passage

Example of Established Fish Passage- Riverhead, NY



GRANGEBEL PARK FISH PASSAGE



Project Partners

*Peconic Estuary Program
Town of Riverhead*

*New York State Department of Environmental Conservation
Peconic River Fish Restoration Commission
United States Fish and Wildlife Service
National Oceanic and Atmospheric Administration
United States Environmental Protection Agency*

*Fish America Foundation
American Rivers*

*Suffolk County
Corporate Wetlands Restoration Partnership
Spectra Energy
National Grid*



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All Sections: Social Resiliency

Goal: Develop educational and training programs to support the goals of RBD

- Develop teacher training opportunities for K-12 curriculum focused on watershed stewardship and ecosystem improvements.
 - Provide higher education institutions with opportunities for students and faculty to support long term monitoring of water quality and ecology.
 - Provide continuing education programs for subrecipients and local governments, incorporating best practices to ensure long term operation and maintenance of RBD components.
 - Develop curriculum and job training programs for displaced workers and students that lead to “restoration economy” jobs on RBD projects components, currently and in the future.
-
- Eligible participants
 - Public academic and higher education institutions
 - Science based research organizations
 - Non profit organizations that focus on conservation, resiliency, and/or education initiatives



For more information and to apply:

<http://stormrecovery.ny.gov/doing-business-with-gosr/nofas>

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Northern Section

Focus: Hempstead Lake State Park

Northwest Pond

Infrastructure/Spillway repair
Dredging to improve water filtration

Hempstead Lake State Park Dam

Repair and make functional
Upgrade 100 year old Dam Spillway,
Gate House

Greenway

“Greenway Corridor” linking communities along the Mill River, into Hempstead Lake State
Development of bike paths and trails, horse trails
Traffic improvements for safe crossings.

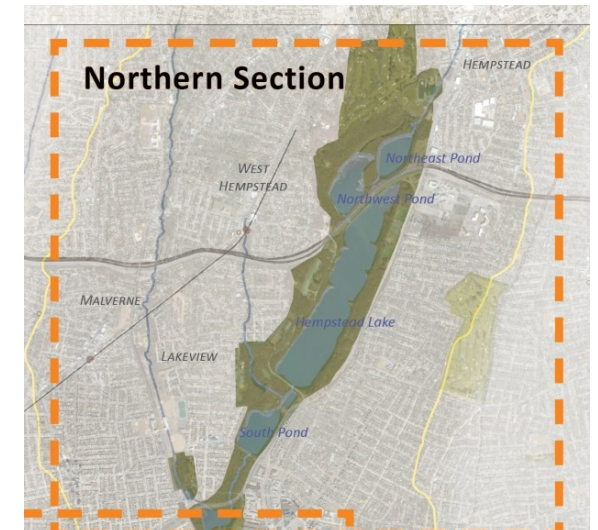


Northeast Pond

- Infrastructure/Spillway repair
- Dredging to improve water filtration

Hempstead Lake State Park

- Improve public accessibility (ADA accessibility paths, new boardwalk)
- Interpretive/educational signage
- Provide recreational opportunities for LMI communities (educational center, docks for birdwatching)
- Fish passage into the Park
- Permeable paving/ Greenway



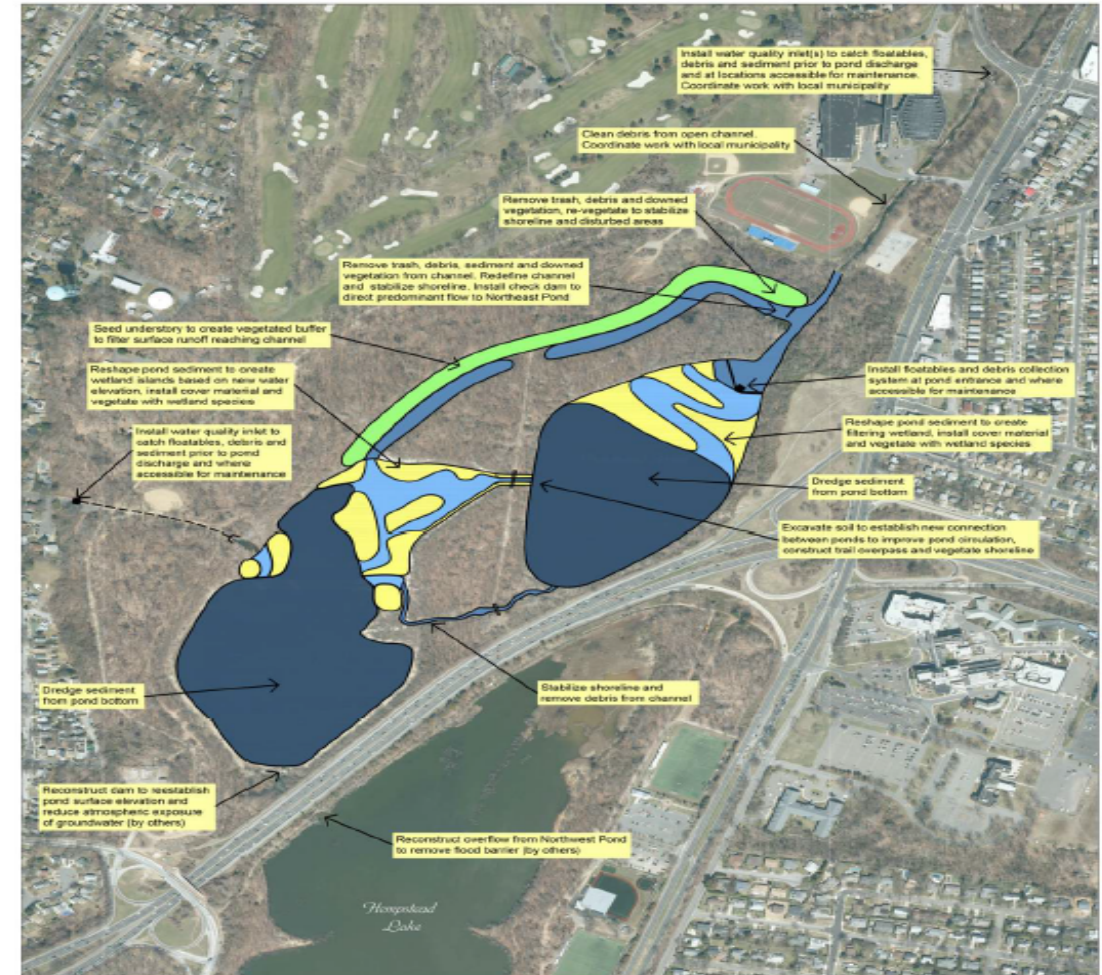
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Northern Section: Hempstead Lake State Park and Northern Ponds

Examples of RBD Related Interventions



EXISTING CONDITIONS



PROPOSED IMPROVEMENTS



HEMPSTEAD LAKE STATE PARK NORTHEAST AND NORTH WEST PONDS

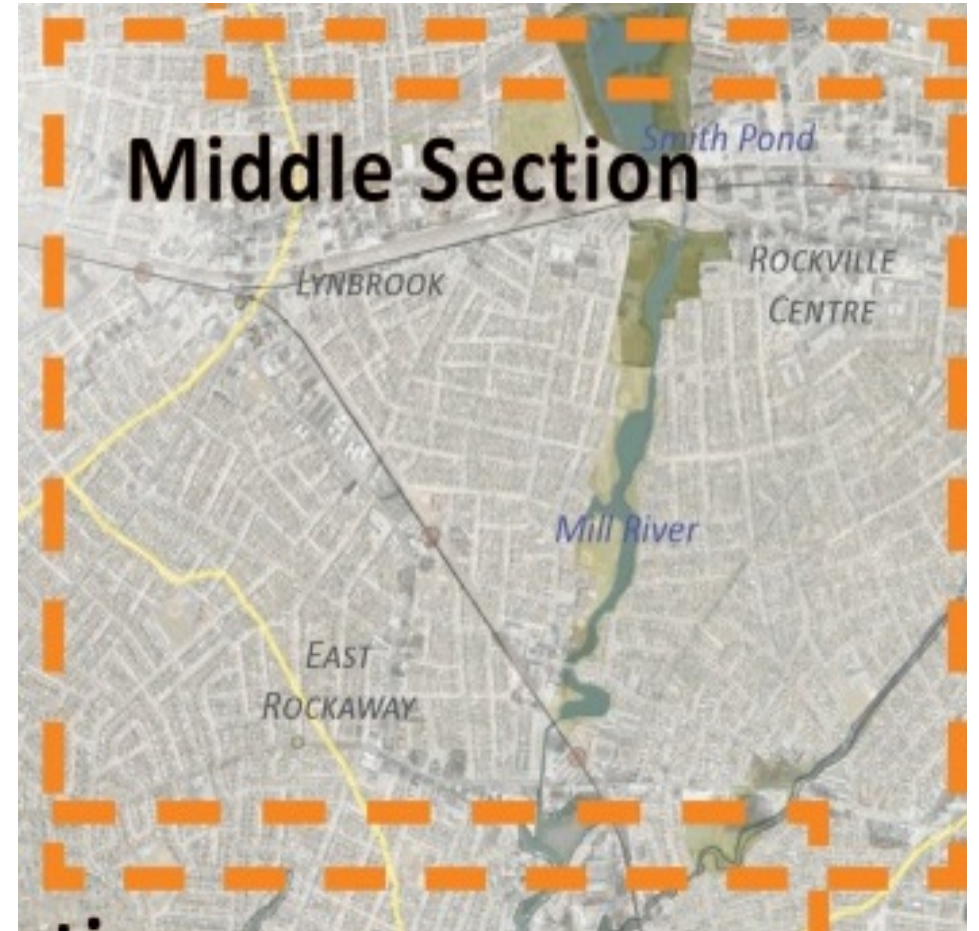
Living with the Bay Middle Section

Focus: brackish water, storm surge, stormwater management and storage, municipal focus

- Smith Pond
- Blue /Green Water Retention Park (HUD funded element)
- Edgewood Preserve (Greenway)
- Check valves
- Drainage system improvements and bioswales
- Underground cisterns and stormwater storage tanks
- Fish ladders
- Greenway



Purpose and Need: increases community resilience by better managing river water and stormwater through storage and infiltration.



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Middle Section: Smith Pond

Focus: brackish water

Stormwater management and storage, water quality improvements, fish ladders, Greenways and recreational opportunities



Water system

Poor water quality (e.g. nitrates, urban runoff, highway runoff, floatables)



Eutrophication in Smith Pond (Spatterdock)



Flow obstacles and barriers for fish migration



Routes

Lack of accessibility to the Ponds



Limited view on the Ponds and Creek



Lack of connection to the adjacent neighborhoods.



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Middle Section: Blue/Green Water Retention Park (HUD funded element)

Focus: brackish water

Stormwater management and storage, bioswales, green and grey infrastructure, recreational improvements and public access



Design | proposed use, an active site of recycling and recreation



A route and park space along the Mill river



Incorporate the existing base ball fields



Attach to the greenway, using the same sustainable solutions and furniture



Pavilion for chopping the wood or other usage in the park



Usage of the storage site by residents; wood, composting, woodchips, nursery for trees

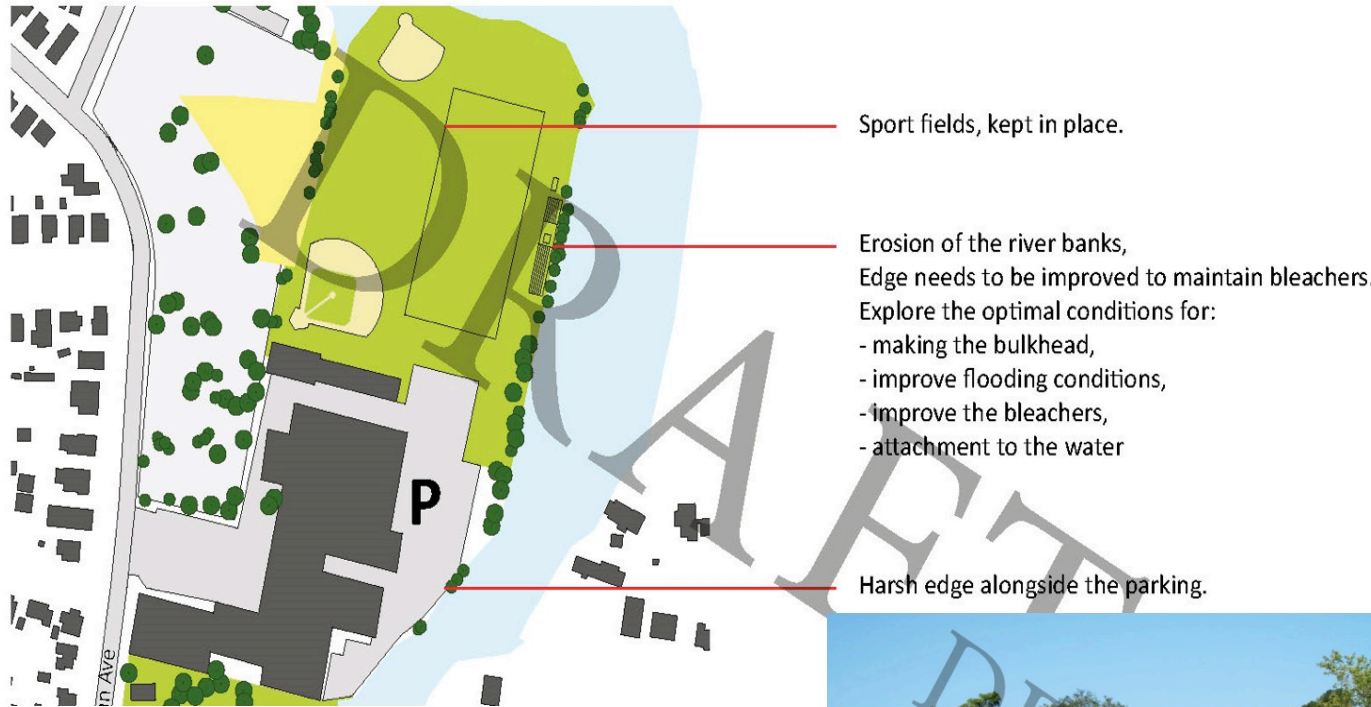


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Middle Section: East Rockaway High School

Focus: storm surge, stormwater management, community resiliency

Analysis | current situation



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Southern Section

Focus (East Rockaway LIRR to Hewlett Bay): marine water, storm surge and wave attenuation

- Suite of options:
 - Marshland Restoration
 - Living Shoreline Systems
 - Check Valves
 - Road Raising
 - Seawall with Berm
 - Floodwalls
 - Greenway
 - Blueway



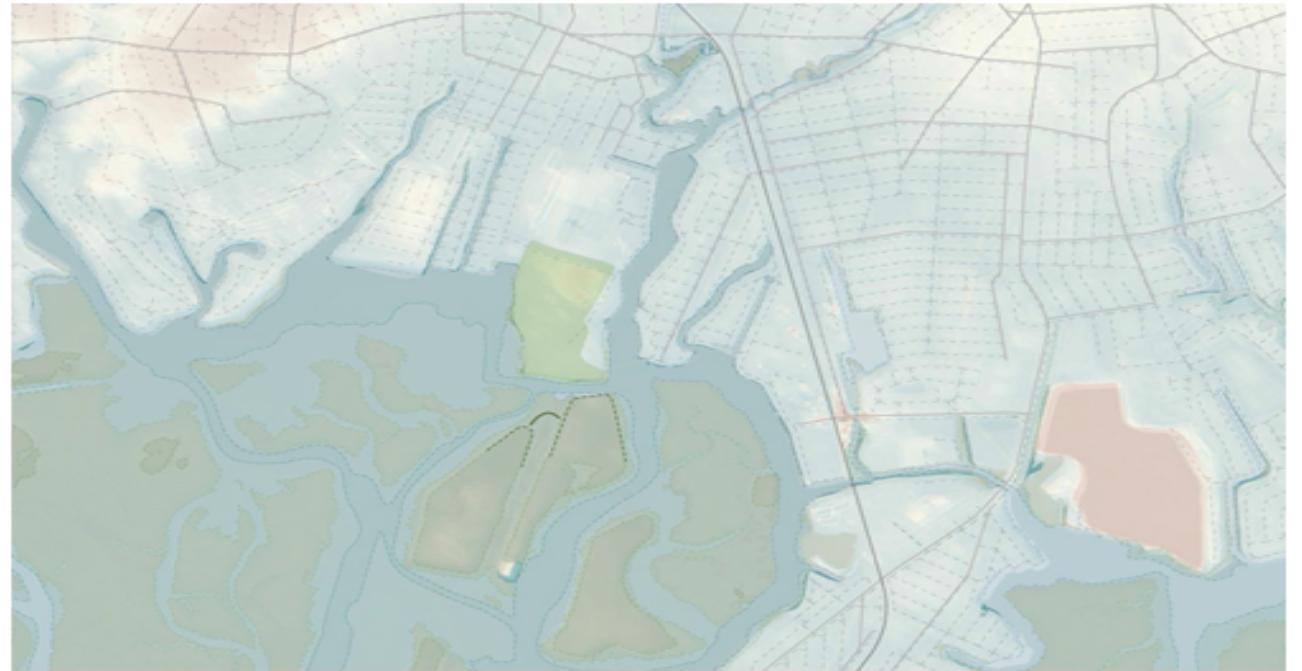
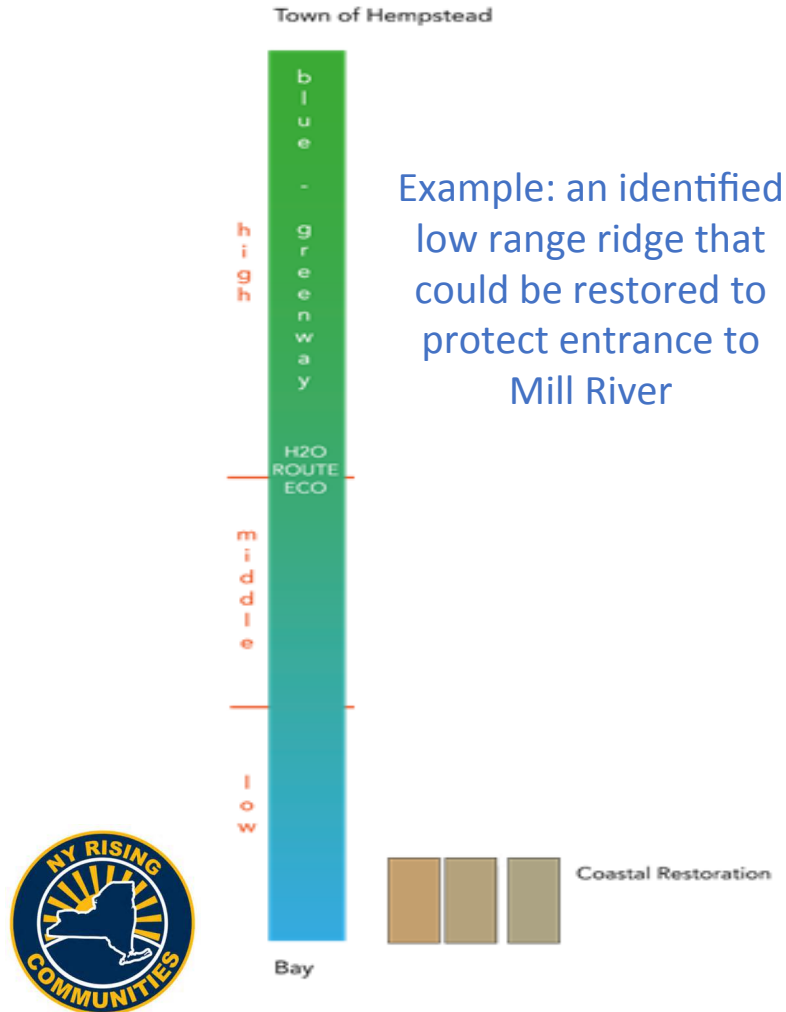
Purpose and Need: protects from tidal inundation, including future storm conditions with sea-level rise.



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Southern Section: Marshland Restoration Options

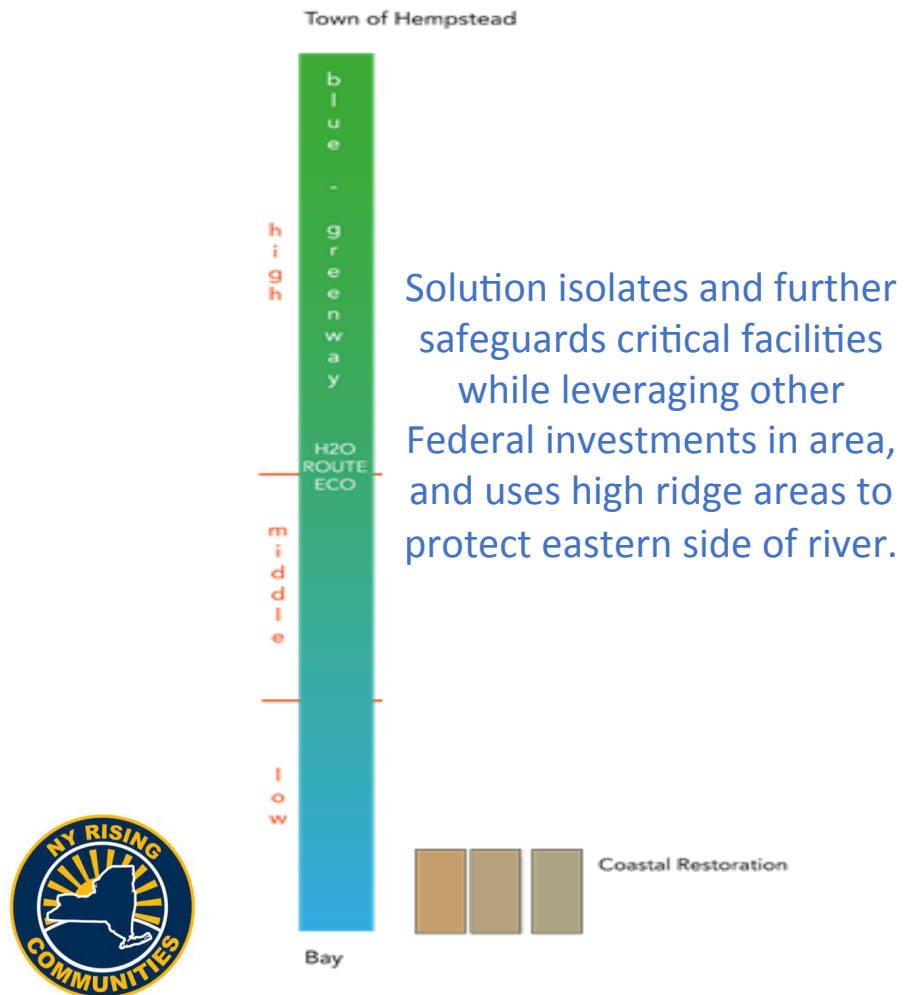
Program Focus: marine water, storm surge – Connect to High Ground



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Southern Section: Marshland Restoration Options

Program Focus: marine water, storm surge, single wave buffer



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Southern Section: Marshland Restoration Options

Program Focus: marine water, storm surge, multiple lines of defense

Town of Hempstead



Solution isolates and further safeguards critical facilities while leveraging other Federal investments in area, and uses a series of ridge areas to protect lower river communities.



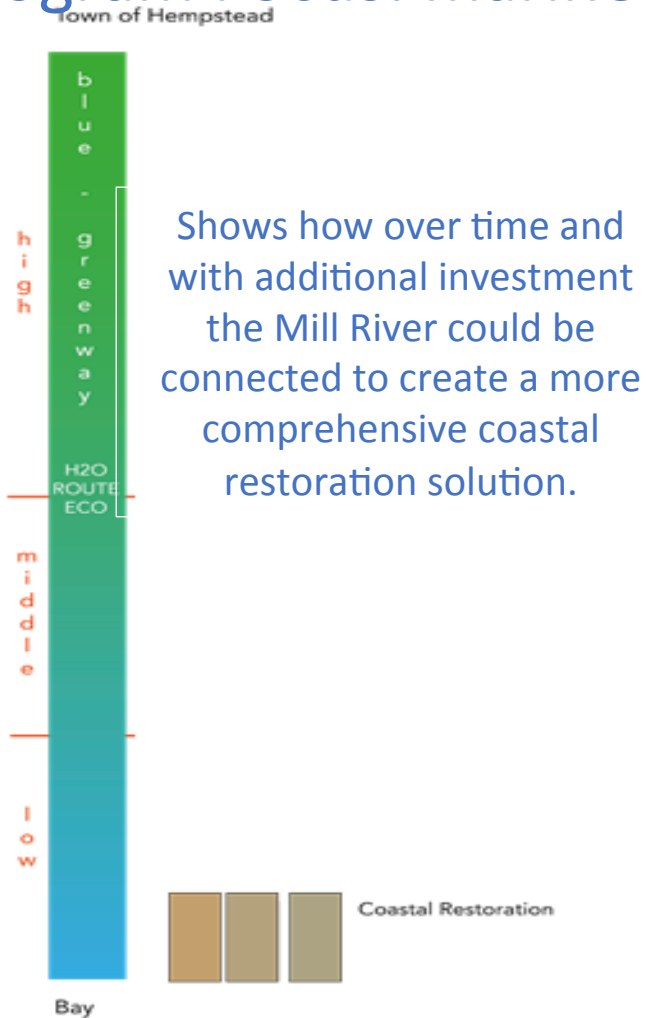
Coastal Restoration



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Southern Section: Marshland Restoration Combination Option

Program Focus: marine water, storm surge – wave buffer + sluice gates



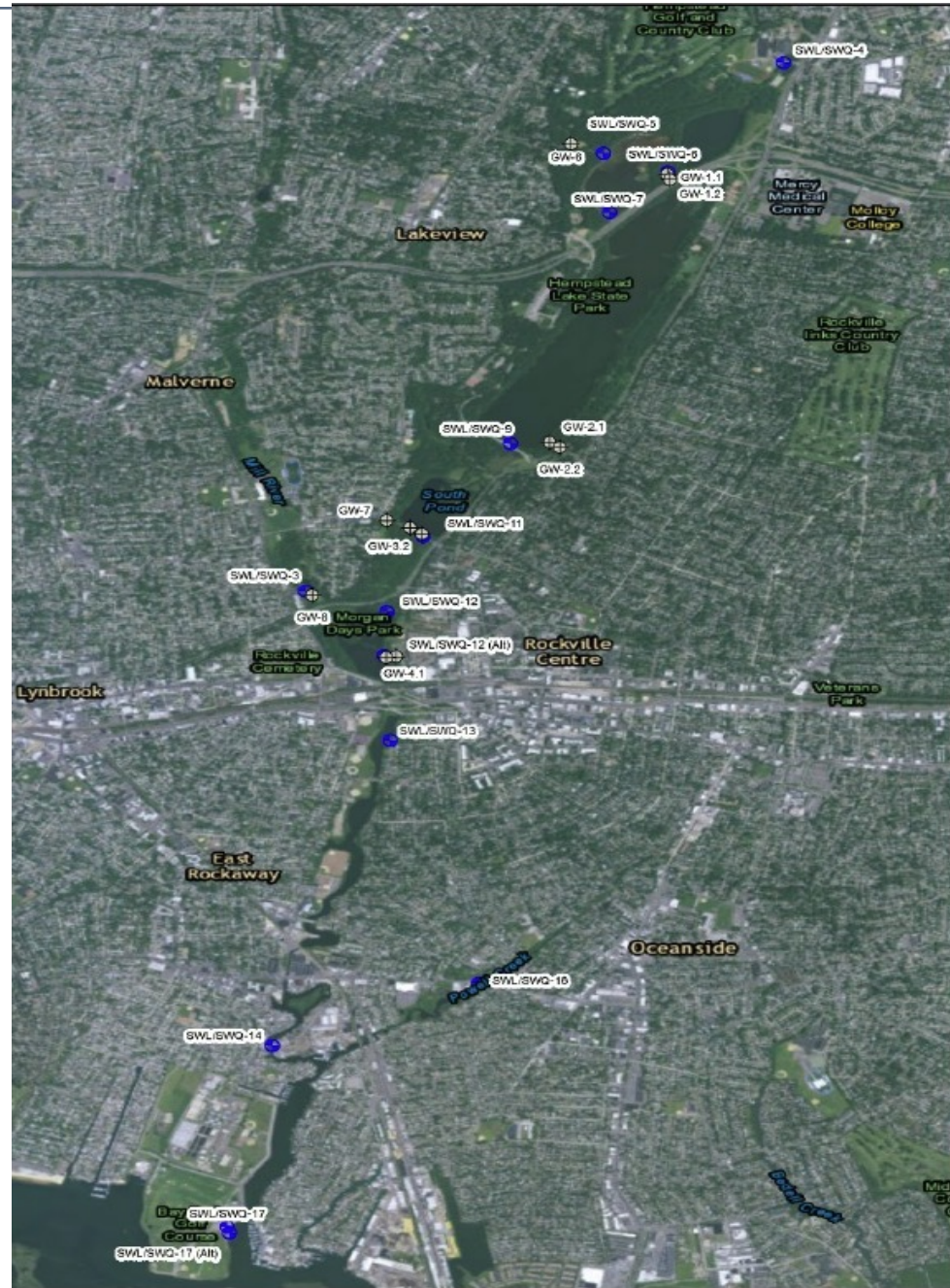
#1 > #2: larger area of effect, berm on shallow waters
#3: combinations with solution on mainland are also possible

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Environmental Review: Baseline Data Collection & Monitoring Study

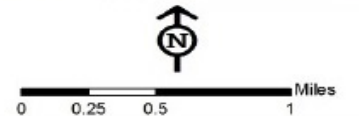
- Two-year study (April 2016 – May 2018)
- Collecting continuous groundwater and surface water level data; real-time weather and wave monitoring
- Six groundwater and surface water quality sampling events over two years
- Data will provide a basis for hydrological and hydraulic modeling to inform design

GOSR is Lead Agency for the environmental review under the National Environmental Policy Act, (NEPA) and the New York State's Environmental Quality Review Act (SEQRA). NYS Parks will be Lead Agency on SEQRA for components within Hempstead Lake State Park.



Legend

- Surface Water Locations
- Groundwater Locations



Sample Locations
Mill River, Long Island, NY

Prepared For:
Governor's Office of Storm Recovery

Prepared By: TETRA TECH Date:
02/2016

Source: Esri, et. al., 2014

Coordinate System: World Geodetic System, 1984

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Anticipated Project Timeline

Phase 1: Upper/Middle Sections, Social Resiliency, Fish Passage	Start	Finish
Study, Research, Planning	Q4 2014	Q4 2016
EIS Review and Permitting	Q1 2016	Q3 2017
Design and Engineering	Q1 2016	Q4 2017
Site Development	Q3 2016	Q3 2020
Construction	Q1 2017	Q3 2021
Closeout	Q3 2021	Q3 2021

Phase 2: Lower Section, Marshland Restoration	Start	Finish
Study, Research, Planning	Q4 2014	Q2 2017
EIS Review and Permitting	Q1 2017	Q4 2019
Design and Engineering	Q3 2016	Q1 2019
Site Development	Q3 2017	Q3 2020
Construction	Q1 2018	Q2 2021
Closeout	Q2 2021	Q3 2021



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Next Steps

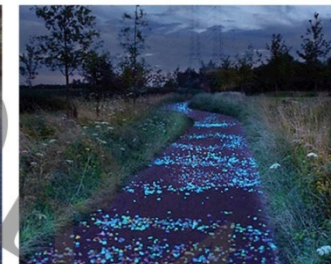
- Continue with data collection and analysis
- Finalize work in northern and middle sections
- Develop marshland restoration strategy
- Initiate social resiliency program
- Explore public and private partnerships
- Identify connections for Greenway and Blueway
- Develop a brand / identity for Living with the Bay
- Develop presentation topics for future CAC meetings
- Ask CAC members to be active in RBD related projects in the area



View points



Objects for climbing and playing



Using solar power and wind energy in custom made high efficient solutions for lighting, recharging and furniture



Attend Blueway Opening June 4th!

Comments or Questions?

Governor's Office of Storm Recovery website:

<http://stormrecovery.ny.gov>

Rebuild by Design:

<http://stormrecovery.ny.gov/rbd>

GOSR Rebuild by Design Living with the Bay:

<http://stormrecovery.ny.gov/living-bay-slow-streams>

**The Governor's Office of
Storm Recovery**

25 Beaver Street, 5th floor,
New York, NY 10004

Hours: 9a – 5p

